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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/007,383	10/22/2001	Hong Kui Yang	30454-00297	7175

7590 11/02/2004

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EXAMINER

SAMS, MATTHEW C

ART UNIT PAPER NUMBER

2643

DATE MAILED: 11/02/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/007,383

Applicant(s)

YANG, HONG KUI

Examiner

Matthew C. Sams

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 10/22/2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-22 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-22 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 22 October 2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT-Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION***Drawings***

1. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include the following reference sign(s) mentioned in the description: Fig. 3 module 224 (referenced page 14, line 26). Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an

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application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 1 and 12 are rejected under 35 U.S.C. 102(e) as being anticipated by Esteves et al. (US-6,687,510 herein after, Esteves).

Regarding claim 1, Esteves teaches of a method to estimate the signal-to-noise ratio (herein after, SNR) of a forward traffic channel in a wireless communications system that uses a pilot channel. (Col. 6 lines 4-9) Esteves teaches that estimating the SNR for the pilot channel can be used to determine the SNR ratio of the forward traffic channel. (Col. 6 lines 4-23)

Regarding claim 12, Esteves discloses an apparatus (Col. 6 lines 19-21) that uses the estimate of the SNR of a pilot channel to determine an estimate of the SNR for the forward traffic channel in a wireless communications system (Col. 6 lines 4-23).

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 2 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Esteves in view of Sindhushayana et al. (US-6,661,832 herein after, Sindhushayana).

Regarding claim 2, Esteves discloses all the limitations of claim 1. Esteves differs from the claimed device in not specifically saying the adjustment is multiplied by the SNR of the pilot channel. However, Sindhushayana discloses a method and circuit (Fig. 3 [110]) for scaling the noise estimation of the pilot channel to obtain the noise estimation of the signal energy. (Col. 3 lines 17-28) At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to use the estimation of SNR for the forward traffic channel of Esteves with an adjustment like that of Sindhushayana. One of ordinary skill in the art would have been motivated to do this since it makes it possible to scale the pilot channel SNR to obtain the SNR of the desired signal, the forward traffic channel. (Col. 3 lines 17-28)

Regarding claim 13, the limitations of the claim are rejected as being the same reason set forth in claim 2.

6. Claims 3-6, 8, 11, 14-17, 19 and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Esteves in view of Jalali (US-6,233,439 herein after, Jalali).

Regarding claim 3, Esteves discloses all the limitations of claim 1. Esteves differs from the claimed device in not specifically saying that there are two adjustment components. However, Jalali discloses a method where the adjustment is comprised of two components, one fast and one slow. (Col. 2 lines 21-24 & Col. 6 Claim 3) At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to use the estimation of SNR for the

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forward traffic control of Esteves with the method of using two adjustment components of Jalali. One of ordinary skill in the art would have been motivated to do this since it makes it possible to get a more accurate estimation of the SNR on the traffic channel from the pilot channel. (Col. 2 lines 52-63)

Regarding claim 4, Jalali discloses a method where the slow correction component is updated at intervals of at least one frame. (Col. 6 lines 46-47)

Regarding claim 5, Jalali discloses a method where the fast correction component is updated at intervals of not more than four power control groups. (Col. 2 lines 21-27)

Regarding claim 6, Jalali discloses a method where the fast correction component is based on a power control signal sent to a base station. (Col. 2 lines 21-24 and Col. 6 claim 3)

Regarding claim 8, Jalali discloses a method where the slow correction component has a magnitude that exceeds a set threshold. (Col. 4 lines 56-59)

Regarding claim 11, Jalali, discloses a method that uses the estimate of the SNR for the forward traffic channel to perform power control. (Col. 3 lines 38-60)

Regarding claim 14, the limitations of the claim are rejected as being the same reason set forth in claim 3.

Regarding claim 15, the limitations of the claim are rejected as being the same reason set forth in claim 4.

Regarding claim 16, the limitations of the claim are rejected as being the same reason set forth in claim 5.

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Regarding claim 17, the limitations of the claim are rejected as being the same reason set forth in claim 6.

Regarding claim 19, the limitations of the claim are rejected as being the same reason set forth in claim 8.

Regarding claim 22, the limitations of the claim are rejected as being the same reason set forth in claim 11.

7. Claims 7, 9, 18 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Esteves and Jalali as applied to claim 3 and 14 above, and further in view of Bottomley et al. (US-09/968433 herein after, Bottomley).

Regarding claim 7, Esteves and Jalali disclose all the limitations of claim 3 above. Esteves and Jalali differ from the claimed invention in not specifically stating that there is an estimation of the ratio of traffic channel power to a second estimation of the traffic channel power based on the pilot channel power.

However, Bottomley discloses a slow estimation of the ratio of traffic channel power to the pilot channel power. (Page 4 [0043]) Scaling the estimation of the pilot channel power does not change the fact that the ratio is the traffic channel power to the pilot channel power. At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to use the two correction components of Esteves and Jalali with that of the slow estimation of Bottomley.

One of ordinary skill in the art would have been motivated to do this since the proportionality relationship between the pilot channel and the traffic channel is derived from estimates of the pilot channel. (Page 1 [0008])

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Regarding claim 9, Esteves and Jalali disclose all the limitations of claim 3 above. Esteves and Jalali differ from the claimed invention in not specifically stating that there is an estimation of the power control step size. However, Bottomley discloses an estimating of the power control step size. (Page 5 [0051] and Fig. 8 [820]) At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to use the two correction components of Esteves and Jalali with the power control step size estimation of Bottomley. One of ordinary skill in the art would have been motivated to do this since knowing the probability of the transmit power control values can maximum likelihood for future decisions. (Page 5 [0051])

Regarding claim 18, the limitations of the claim are rejected as being the same reason set forth in claim 7.

Regarding claim 20, the limitations of the claim are rejected as being the same reason set forth in claim 9.

8. Claims 10 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Esteves in view of Chheda et al. (US-5,963,870 herein after, Chheda).

Regarding claim 10, Esteves discloses all the limitations of claim 1. Esteves differs from the claimed device in not specifically saying the SNR for the pilot channel is estimated by summing SNRs for each finger in a Rake receiver. However, Chheda discloses a method where ratios are combined in a Rake receiver. (Col. 6 lines 4-6) At the time the invention was made, it would have

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been obvious to a person of ordinary skill in the art to use the estimation of SNR for the forward traffic control of Esteves with a summing circuit like that of Chheda. One of ordinary skill in the art would have been motivated to do this since it makes it possible have each finger of the Rake receiver count towards estimating the SNR. (Col. 5 lines 66-67 and Col. 6 lines 1-3)

Regarding claim 21, the limitations of the claim are rejected as being the same reason set forth in claim 10.

Conclusion

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

US-5,933,781 to Willenegger et al. regarding pilot based, reversed channel power control.

US-6,587,696 to Ma et al. regarding power control techniques utilizing the forward pilot channel.


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Matthew C. Sams whose telephone number is (703)305-0810. The examiner can normally be reached on M-F 7:30-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Curtis Kuntz can be reached on (703)305-4708. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

MCS
10/27/2004


GEORGE ENG
PRIMARY EXAMINER